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AUTHOR Fortini-Campbell, Lisa; Moore, Jeff
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ABSTRACT

The advertising copy for a product was manipulated along two structural dimensions (inside/outside product attributes, and before/after consequences of using product) to refine the concept of exposure in advertising research and to test a method of observing cognitive behavior while people are attending (exposed) to the media. The 78 participants in the study--39 who read the attribute copy and 39 who read the consequence copy--read their assigned advertisements once a day for three days so that changes in their thoughts across exposures could be recorded. During each exposure, all participants marked the ad with a slash whenever a thought occurred to them, while a randomly selected one-third of the sample population wrote what these thoughts were before returning to the task. The results showed that neither the structure nor the focus of thoughts changed across exposures in ways that were expected. Although the mean numbers of thoughts increased with additional ad exposure, their focus did not shift as hypothesized from attribute to consequence thoughts. Attribute and consequence thoughts also tended to reflect attribute and consequence advertisements, respectively. The idea that subjects would focus on the product during the first exposure and then on connections during second and third ads seemed only weakly supported. (RL)

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Theory & Methodology Division
Student Paper

COGNITIVE BEHAVIORS DURING THREE EXPOSURES TO AN ADVERTISEMENT

By
Lisa Fortini-Campbell and Jeff Moore
Graduate Students

University of Washington
Seattle, Washington 98195

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Cognitive Behaviors During Three Exposures
to an Advertisement

What do we know about the behavior of attending to the mass media? Although many communications scholars have discussed the importance of attending behavior (Stephenson, 1967; Katz, Blumler and Gurevitch, 1974; Carter, 1973), few have actually investigated attending behavior per se. Researchers have been more concerned with relating the fact of attention (exposure) to conditions antecedent and/or consequent to exposure. Traditionally, the unit of observation in media research has been "mere exposure," as if the only important difference among such units was their duration. But what does this exposure entail? How and to what does the individual attend, cognitively, during exposure?

Such questions prompted this research. Our first purpose is to refine the concept of exposure. Our second purpose is to test a method of observing cognitive behavior <u>while</u> people are attending to the media, not after they have attended. While our concept and methods are applicable to many types of media content, we will look specifically at advertising. Our general strategy is to minitor an individual's thoughts while he is attending to an advertisement. Specifically, the unit of observation is the thought occurring to an individual as he views an ad.

It will be important for the reader to keep in mind that this study is exploratory and descriptive in nature. We are concerned with explicating the notion of "exposure" and with collecting an individual's thoughts objectively and efficiently. We seek to demonstrate the productivity of refining a variable which has been taken for granted, for the most part, by our predecessors. Therefore, we have no formal hypotheses with regard to the

changes in thoughts over exposures (although the literature does provide us with some general expectations). We shall describe the trends in our data and hope that we demonstrate the productivity of this avenue of research. We believe that a better understanding of what occurs during exposure will contribute to more useful research on the antecedents and effects of exposure.

A Review of Krugman's Research

It is useful, at this point to discuss briefly the work of Herbert Krugman, a pioneer in the investigation of the cognitive behavior of individuals attending to the mass media. Krugman (1968) studied individuals' responses to advertisements by attempting to determine what they were "thinking," "feeling," and "looking at" during exposure. The present study is concerned with what Krugman calls "thinking," defined as "those thoughts which spontaneously came to mind while the ad was being viewed."[1]

Further, he elaborated a sequence of cognitive events, based on learning processes, which may accompany exposures to an advertisement. On the first exposure to an ad, the viewer's reaction is dominated by a "what is it?" response. The viewer's thoughts tend to focus on identifying the product. Krugman suggests that this first response is "to understand the nature of the stimulus ...for mental classification" (1972). Next, the viewer asks, "what of it?" He shifts to a question of the product's relevance to him. In an earlier article (1968), Krugman termed this type of thought a "connection," that is, a thought which links "some content of the ad to some content in the personal life of the respondent." Krugman indicated that this second type of response

1. "Looking" referred to eye movements and "feeling" to intensity of physiological response.

generally occurs during the second exposure to an ad. He notes that this response may occur to some extent during the first exposure, particularly with a printed ad that the viewer can look at longer than a televised ad. The basic reaction to the ad is completed during the second exposure when the "what of it?" response predominates. He also indicated that this second exposure is especially important because the viewer makes evaluations about the product.

The third cognitive event, according to Krugman, accompanies the third exposure and constitutes a reminder. The identity of the product and its personal relevance may be recalled or recognized because they were learned during earlier exposures.

Conceptualization

Structure of Thoughts

While Krugman regards "what of it?" responses and "connection" thoughts as synonymous (both referring to personal relevance thoughts) we have found it useful to modify Krugman's conceptualization. First, by differentiating "what is it?" and "what of it?" thoughts in terms of their structure, and second, by breaking down his "connection" notion into two types based on their focus.

The distinction between "what is it?" and "what of it?" responses is conceptualized in terms of their structural differences. Our conceptualization draws heavily from the cognitive theory developed by Carter (1974). A distinctive feature of Carter's work is that thoughts can be distinguished in terms of the kind of relation between their elements. It is possible to locate one element inside or outside another element or to locate one element

in time before or after another element.

Respondents whose thoughts ask "what is it?" are looking for attributes which describe the focal object. The respondent is attempting to construct and inside/outside relation between the elements. For example, the viewer of a Timex ad may think, "what does a Timex watch cost?" The focal object is the watch and "cost" is the attribute he is trying to locate with regard to it. An example of a thought expressing an outside relation is, "this Timex watch is not cheap." Again, the watch is the focal object and "cheap" is not an attribute of the watch. The attribute "cheap" has been located outside the focal object. In these examples, the focus or "object" of the thought has been the product. It is quite possible for an individual's thoughts to be focused on something other than the product as will be discussed on pages 5 and 12.

The cognitive response referred to by Krugman as "what of it?" may be interpreted as an expressed before/after relation. A thought expressed as, "if I buy this Timex watch, then I'll always know the time" is a thought of this type. Here the respondent is constructing a temporal sequence of events by thinking about what will happen as a result of something else. He is concerned with the consequences of something.[2] Again, the focus of this example is the product, but other foci are possible.

Once again, the unit of observation is the thought that the subject reports having had while viewing the ad. A thought is defined as a statement containing three elements: that is, how (1) something (2) relates to (3)something else. Those three elements must be present in a statement before it can be identified as a thought.

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2. We do not wish to confuse sequence, the fact that one thing follows another, with effect, the idea that not only does one thing follow another, but that the first is conditionally related to the second. An effect is a particular kind of sequence. Also, note that the inside/outside discriminations have been referred to as "inclusive/exclusive" and before/after discriminations have been referred to as "consequential" in other literature.

Focus of Thoughts

The second aspect of exposure is concerned with the focus of the thought generated by the respondent. Here we are examining the "it" in "what is/of it?" In looking at the thought's focus, we will also break apart Krugman's notion of "connection." He uses "connection" as a synonym for "what of it?" responses. We have defined "what of it?" in terms of its structure and have broken "connection" into two types of "connections" depending on the focal elements which are linked.

The first type of "connection" has been termed "ad context connection." Here, the viewer links some aspect of the ad to some content of his personal life which is within the context of the ad itself. For example, while viewing an ad for Timex watches (which describes them and states that they make good presents), the respondent might think, "this watch would be perfect for my sister's birthday present." The respondent has linked the product to himself in a way encouraged by the ad.

The second type of "connection" response has been called "personal context connection." Here the viewer links some aspect of the ad to some content of his personal life which is outside the ad. For example, the same respondent viewing the same ad might think, "that watch reminds me of Switzerland where my grandfather lives." The respondent has linked the product to himself in a way which is unrelated to the content of the ad, as we are assuming that the ad does not mention Switzerland. Krugman's definition of "connection" ignores this distinction. Basically, the focus of the personal and ad context connections is the self. The respondent may focus on himself within the context of the ad (ad context connection) or he may focus on himself in a way unrelated to the ad (personal context connection).

In summary, each thought has two dimensions--focus and structure. Focus is concerned with <u>what object</u> the respondent is thinking about. Structure is

concerned with how he is thinking about it.

To summarize, our research questions include:

1. What is the focus of an individual's thoughts as he attends to an advertisement?

2. What is the structure of these thoughts?

3. How do the distributions of foci and structures change over the course of three exposures to an advertisement?

We do have some expectations with regard to the above research questions. First, we expect to find a variety of thought foci. Not only will the respondent think about the product advertised, but we expect him to think about the ad and the way the product is displayed and described. If as Krugman suggests, an individual becomes more concerned with the product's relevance to him once he has identified it, we would expect that the respondent will focus on the product during the first exposure and will have more "ad context" and "personal context connections" during the second and third exposures. In addition, we expect the respondent's thoughts to have the inside/outside structure during the first exposure because he is attempting to identify the product or ad. During the second exposure, we expect his thoughts to take on the before/after structure as he is thinking about the consequences of using the product.

This conceptualization requires us to look inside the "black box" where real media effects occur. Much research on effects has considered only those behaviors observable after exposure to a message, and has ignored those behaviors occurring during exposure. Data based on what a subject recalls only provide the researcher with artifactual evidence of what occurred at an earlier point in time. It is important to improve our observing capability so that we may come closer to observing how a person processes a message. We want to examine a process and not just the residue of that process.

The technique described in the methods section of this paper permits such

an observation. It allows the collection of an individual's thoughts as they are occurring.

Methods

Krugman's sequence of cognitive events is based on the thoughts his subjects had while viewing an advertisement. However, those thoughts which ostensibly occurred during exposure were reported after the ad had been viewed and put aside. Krugman indicates that he was careful to encourage his respondents to separate the thoughts they had had while viewing the ad from those formed afterward or during the questioning period. However, this post hoc procedure could be avoided if a method for observing thoughts as they occurred were developed. This study proposes and checks such a method. Before describing this method, it is important to explain the stimulus materials and the research design so that the reader will have some context for the description of the observational tool which will follow.

Stimulus Material

The RipenRight Fruit Bowl was chosen as the test product. The covered fruit bowl claims to trap the ethylene gas given off by the fruit stored in it. The trapped gas speeds the ripening process. This product does exist but is not available in Seattle. This product was chosen because it was unfamiliar enough to the subjects that they would need to answer the "what is it?" question. With a very familiar product, the subjects would have been able to define the product from their own experience with it or with similar products. While the idea of a fruit bowl is not unfamiliar to most subjects, this particular fruit bowl and its unique properties would be. Consequently, the subject would not

be able to completely define the product from his own experiences with fruit bowls and would have to rely on the ad copy to define the product for him.

The text of the RipenRight Fruit Bowl ad was manipulated along the structural (inside/outside vs. before/after) dimension. This textual manipulation represents two advertising strategies. One ad text was described as "attribute-based." The text of this ad focused on describing the attributes of the RipenRight Fruit Bowl. The structure of these descriptions was inclusive; naming qualities, characteristics, properties, or parts of the product. Some mention of the utility of the product was made and these statements also took the inside/outside form. No references to the personal or social advantages of owning such a product were made.

The second type of ad text was described as "consequence-based." This type of ad focused on describing the consequences of owning the RipenRight Fruit Bowl in terms of its utilities and its personal and social relevance. The ad copy also attempted to facilitate subject involvement with the product by describing situations which were designed to trigger the recollection of similar experiences in the respondent's own life.

Ideally, the "attribute-based" ad would answer the respondent's "what is it?" questions and the "consequence-based" ad would answer his "what of it?" questions as well as involving him in the ad.

It is important to note that statistical comparisons between the ad types will not be made, because the ad manipulations represent two typical advertising strategies and not true variations of one experimental variable. When the text of an ad is manipulated to achieve differences in attributes and consequences, many other aspects of the ad are manipulated as well. Even something as simple as length of copy may be inadvertently manipulated and must be considered an uncontrolled variable contributing to the observed variance

in the dependent measures. We realize that the ad manipulations are not "clean" and we will only compare the "attribute-based" and "consequence-based" ads when appropriate.

Observation of Thoughts

Each subject received a black-and-white copy of the RipenRight Fruit Bowl ad containing a drawing of the product . (Copies of the ads are included in Appendix A.) Two versions of the task were prepared for each kind of ad. For the short version of the task, the subject was simply instructed to mark the text with a slash at the place where a thought occurred to him (See Carter et al., 1973, for a full description of the Signalled Stopping Technique).[3] The long version of the task asked the subject to perform a similar exercise (mark the text with a slash wherever a thought occurred to him) with the following difference. Each time he marked the place where a thought occurred, he was asked to go to a second sheet of paper and jot down the content of the thought very briefly, then go back to the ad and keep reading. The jotted thoughts would serve to remind the respondent what he had been thinking about as he viewed the ad. After the respondent had finished reading the ad, he was asked to put it aside and further explicate the thoughts he had had while viewing the ad, referring to the sheet on which he had jotted them. (The complete text of the instructions given to the subjects appears in Appendix B.) We were aware that if the respondents were asked to write down what they had been thinking about while reading the ad after they had viewed it, the responses might have been few and not very accurate descriptions of what they had actually been thinking

3. The Signalled Stopping Technique has been most frequently used for message analysis. It can be used to tell where in the copy and by what the reader has been stopped. In the present study, we are concerned with the responses themselves and not with the place or words in the copy which preceded the stop.

about. Additionally, these responses might have been embellished reconstructions of what the respondent recalled thinking about. The more sensitive jotting-then-explicating procedure allowed the collection of many more responses than could have been collected by asking the subjects to discuss their thoughts after reading the ad. We also assumed it would minimize reconstruction of the thoughts. The jot served to remind the respondent what he had been thinking about and focused his written explications. There was less chance of the subject making up thoughts on the spot. Again, while the explicated thoughts are still confounded with some reconstruction, the amount of reconstruction will likely be much less with this method of reporting.

The Collection of Thoughts over Exposures

This study required that subjects be exposed to an ad several times so that changes in their thoughts across exposures could be observed. Krugman discovered that three exposures to an advertisement were adequate for the respondent to become familiar with the product and answer the "what is it?" and "what of it?" questions. Therefore, for the present study, the subjects were exposed to the ad three times. Each subject viewed the ad once every day for three days.

One important and interesting feature of this study was the procedure used to achieve independent replications of the observations over time. Recall that two versions of the task were prepared. The short version simply asked the subject to read and look at the ad and mark it with a slash wherever a thought occurred to him. The long version asked the subject to complete this stopping task as well as explicate (in writing) the thoughts he had had while viewing the ad.

On the first exposure to the ad, one-third of the subjects, chosen randomly,

filled out the long version of the task. On the second exposure, a different randomly chosen third filled out the long version of the task. On the third and final exposure to the ad, the remaining third of the subjects filled out the long version of the task. (It is important to remember that the subjects who filled out the long version of the task on day 2 and those who filled out the long version on day 3 had already been exposed to the ad once and twice, respectively. They filled out the short form during the earlier exposures.)

Such a staggering procedure achieved independent relications of the observations over three days (three exposures). This procedure was necessary because a pretest using the long version all three days indicated that the task itself was structuring the respondent's thoughts after the first day. After the first exposure to the ad and task, the respondents became aware of what they would be required to do on the following days and frequently completed the task according to what they thought the researchers whanted. Obviously, this problem interfered with the collection of "clean" data. Secondly, it is reasonable to assume that the thoughts an individual has on the first exposure are related to the thoughts he has on days 2 and 3. This is a particular problem in this study because the subject was required to explicate his thoughts, thereby becoming much more aware of them than he would have been if he had not written them down. Finally, we are looking for certain patterns in the data which may have been confounded by the resulting serial correlations in the responses.

The simple response-staggering procedure descrived above allowed us to obtain independent relications of the responses over exposures as well as minimize the test effects. In summary, the responses of those who filled out the long version on the first exposure represented the thoughts of individuals during the first exposure, the responses of those who filled out the long

version on the second day represented the thoughts of individuals during the second exposure, and the responses of those who filled out the long version on the third day represented the thoughts of individuals during the third exposure. However, all of the respondents viewed the ad three times and each respondent viewed only one type of ad (either "attribute-based" or "consequence-based"). This procedure is reasonable because the subject population was highly homogeneous and subjects were randomly assigned to the treatment groups. Figure 1 displays the staggering procedure.

--Figure 1 about here--

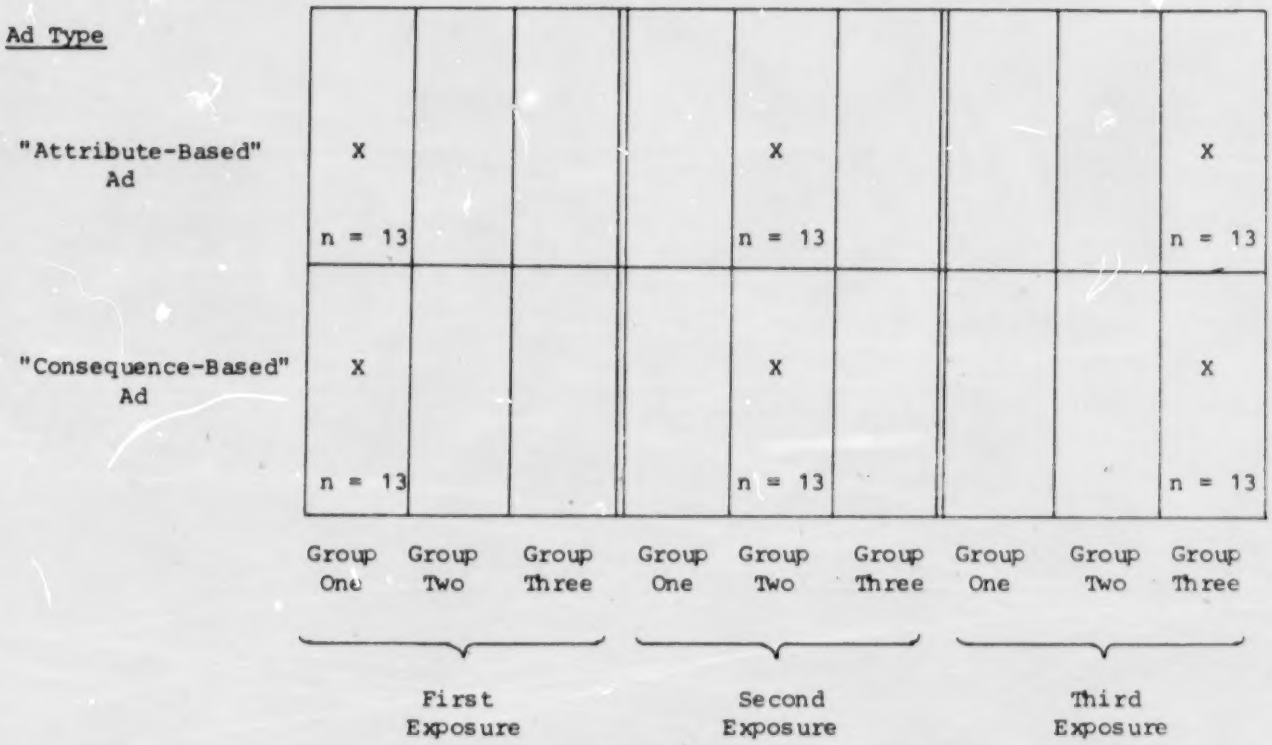
The Dependent Variables

The unit of observation was a thought that the subject reported having had while viewing the ad. A thought was defined as a statement containing three elements: that is, how (1)something (2)relates to (3)something else. The "something," the "relation," and the "something else" must be present in a statement before it can be identified as a thought. We looked for three separate pieces of information from a respondent's explication of his thoughts. Once the explications were divided into separate thoughts, the thoughts were counted. This count represented the first piece of information, number of thoughts.

Second, each thought was coded for its structure. The structural possibilities were: inside/outside and before/after. If the subject described an attribute, property, or part of an object, then the thought was coded as inside/outside. If the subject described a necessity, sufficiency, or temporal relation, then the thought was coded as before/after.

Third, the thought was coded for its focus. The possible foci included the product or the fruit inside the product, the ad copy, and the two "connection" foci described in the conceptual section. (See Appendix C.)

FIGURE 1: RESPONSE STAGGERING PROCEDURE



"X" denotes the third of the subjects who filled out the long version of the task during a given exposure.

The thoughts were identified in one pass through the data. In a second pass, the structure and focus of the thought was determined.[4] Each thought was coded by a pair of coders who classified each item separately, then compared their results. For every item on which they disagreed, they discussed rationales and reached agreement. The coders disagreed on less than three percent of the items. A third, independent coder coded a random sample of 20% of the data. His results were compared with those of the paired coders. Scott's (1955) test of intercoder reliability was used. This reliability test eliminates the bias due to the fact that, by chance alone, one would expect better agreement on a two-category than on a four-category scale. Ninety-six percent reliability was achieved for the structure dimension and 97% reliability was achieved for the focus dimension. A simple test of intercoder agreement was used to determine the reliability of the identification of the thoughts. Ninety-eight percent agreement was achieved by the following calculation: $R=2(C_{1,2})/C_1+C_2$ where $C_{1,2}$ is the number of category assignments both coders agree on, and C_1+C_2 is the total category assignments made by both.

Face validity, at least, may be attributed to the focus dimension because the categories were rigorously defined and the agreement among the coders is high. The issue of validity will be taken up again in the results section (see note page 17).

The Subjects

The participants in this research were students in an introductory communications course. Seventy-eight individuals completed the study, 39

4. The structure and focus of each thought should have been coded on separate passes through the data. The authors recognize the inferiority of the coding procedure used here and recommend that this deficiency be corrected in further research .

viewed the "attribute-based" ad and 39 viewed the "consequence-based" ad. The subjects were randomly assigned to each of these conditions as well as randomly assigned to complete the long version of the task on the first, second, or third day. Each subject received the same type of ad all three days. It is important to note at this point the sensitivity of this particular group of people. The subjects had practiced the Signalled Stopping Technique as part of their studies. They also studied the effects of advertising, in particular, subliminal effects. They cannot be considered naive subjects. The implications of the sensitivity of these subjects will be noted when discussing the results of the study. We would have liked to have obtained more subjects as the low N interferes with statistical testing of the results. However, given the small number of subjects available and the requirement that each subject participate all three days, more subjects were not obtainable for this study.

The collection of the respondent's thoughts in this fashion was fairly successful. However, when comparing the jotting page and the explicating page for certain subjects, it was apparent that the subjects had explicated a much broader and more complex thought than had been jotted. It is impossible to tell whether the entire thought occurred to the subject while viewing the ad. Unfortunately, there was frequently not enough substance to the jotted thought so that it could replace the explicated thought for coding. We recommend that in further research, the explicating page be eliminated and the subjects encouraged to more completely specify their thoughts on the jotting page.

Results

To repeat our purpose, we seek only to demonstrate that the concept we have explicated is useful and productive. We have no formal hypotheses to test with regard to the trends in the thoughts over exposures. We will simply describe the trends in the data without drawing conclusions or implications from them.

Focus Across Exposures (See Tables 1 and 2)

As can be seen from the tables, the respondents' thoughts had several foci. Not only did they think about the product, but they thought about the ad as well as connected the product or ad to themselves. From Krugman's discussion of "what is it/what of it?" thoughts, it is apparent that the "it" refers to the product described in the ad. Here we can see that the respondent has thought about other objects besides the product. The ad types also show some differences in the focus of the thoughts. Those viewing the "consequence-based" ad focused more on connections (ad and personal context) than did those viewing the "attribute-based" ad.

The changes in focus over exposures are somewhat inconsistent with our expectations given Krugman's hypotheses. Many of our subjects' thoughts were focused on the ad itself, particularly during the first exposure. (The number of thoughts focused on the ad however, may be somewhat inflated due to the exposure to advertisitng strategies of this particular subject population.) Krugman's suggestion that the subjects will focus on the product during the first exposure and then on connections during the second and third seems only weakly supported by these results. Only in the "consequence-based" ad did the respondents focus on the product slightly more often than on connections on

Table 1
Focus over Exposures: Attribute Ad

	1st Exposure	2nd Exposure	3rd Exposure
Product	$\bar{x}$ = 1.85 s = 1.41	$\bar{x}$ = 2.00 s = 1.47	$\bar{x}$ = 4.84 s = 2.23
Ad	$\bar{x}$ = 3.00 s = 1.96	$\bar{x}$ = 2.00 s = 1.52	$\bar{x}$ = 2.69 s = 2.32
Ad Context Connections	$\bar{x}$ = 0.23 s = 0.60	$\bar{x}$ = 0.38 s = 0.87	$\bar{x}$ = 0.31 s = 0.63
Personal Context Connections	$\bar{x}$ = 1.00 s = 1.50	$\bar{x}$ = 3.00 s = 2.34	$\bar{x}$ = 1.30 s = 1.43
	n = 13	n = 13	n = 13 N = 39

$\bar{x}$ represents the mean number of the particular type of thought per person per exposure.
s represents the standard deviation of the number of the particular type of thought per person per exposure.

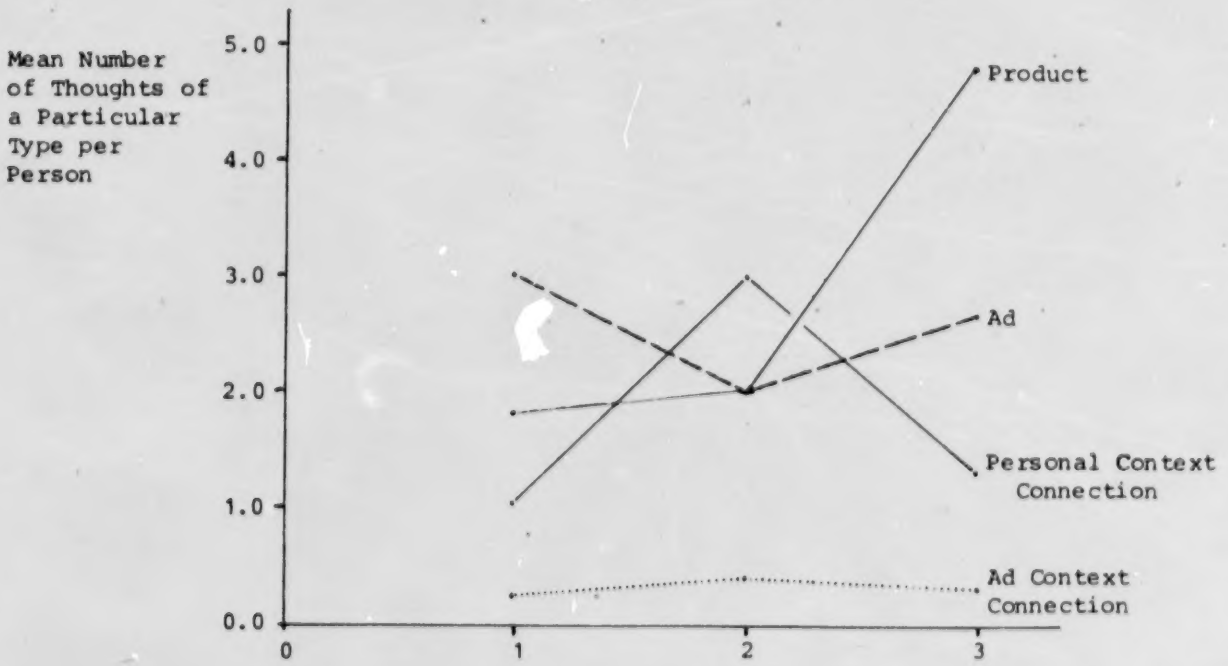
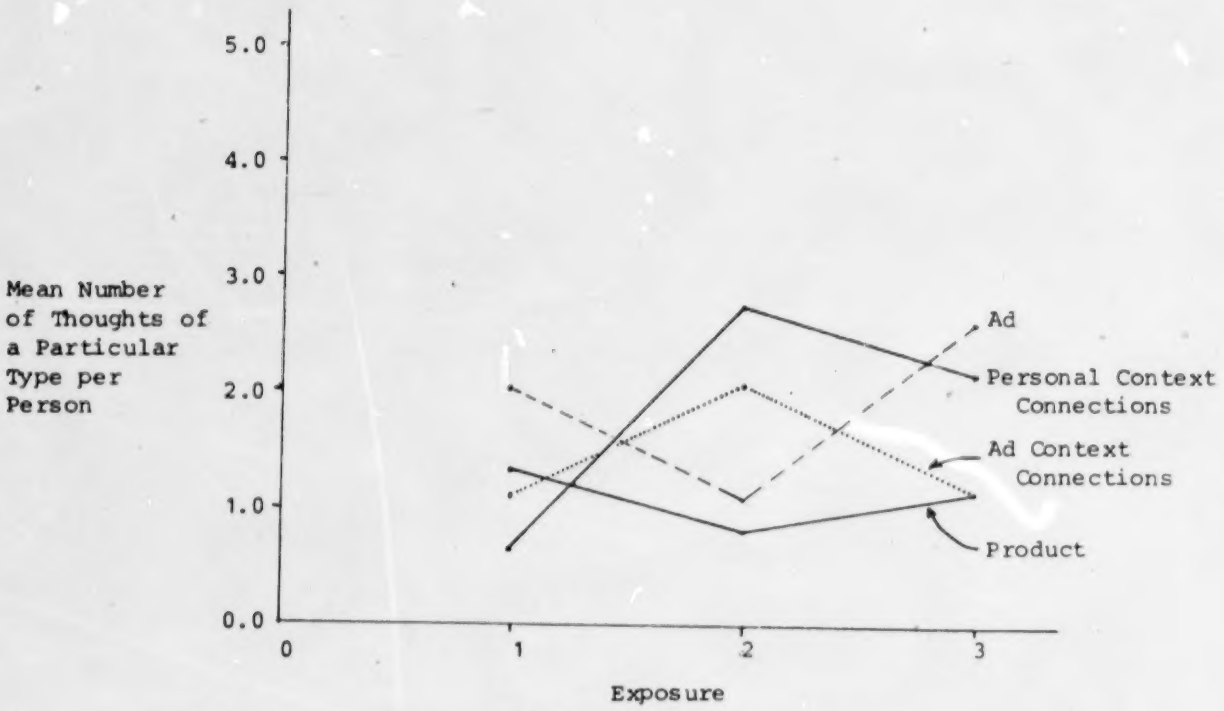


Table 2: Focus over Exposures, Consequence Ad

	1st Exposure	2nd Exposure	3rd Exposure
Product	$\bar{x}$ = 1.30 s = 1.25	$\bar{x}$ = 0.85 s = 1.05	$\bar{x}$ = 1.15 s = 1.51
Ad	$\bar{x}$ = 2.00 s = 1.58	$\bar{x}$ = 1.07 s = 1.18	$\bar{x}$ = 2.61 s = 1 75
Ad Context Connections	$\bar{x}$ = 1.07 s = 1.44	$\bar{x}$ = 2.07 s = 1.60	$\bar{x}$ = 1.15 s = 1.14
Personal Context Connections	$\bar{x}$ = 0.69 s = 0.85	$\bar{x}$ = 2.76 s = 3.03	$\bar{x}$ = 2.15 s = 2.85
	n = 13	n = 13	n = 13 N = 39

$\bar{x}$ represents the mean number of the particular type of thought per person per exposure.
s represents the standard deviation of the number of the particular type of thought per person per exposure.



the first day and on connections more than on the product thereafter. This trend is not the case for the "attribute-based" ad.[5]

Structure Across Exposures (See Tables 3 and 4)

From Krugman's descriptions of the cognitive events during exposure to an advertisement, we would expect the respondent's thoughts to have the inside/outside structure during the first exposure because he is attempting to identify or classify something. During the second exposure, we would expect his thoughts to take on the before/after structure as he is thinking about the consequences of something or thinking back to something. As we can see from tables 3 and 4, this expectation is not entirely confirmed. For the "attribute-based" ad, during the first exposure, the mean number of inside/outside-structured thoughts is high while the mean of the before/after-structured thoughts is relatively lower. During the second exposure, the mean of the before/after-structured thoughts increases, while the mean of the inside/outside-structured thoughts decreases relative to their positions during the first exposure. However, during the third exposure, the trend reverses itself and the respondnet's thoughts return to the inside/outside structure, for the most part.

A similar trend is evident with respect to the "consequence-based" ad. An interesting difference is that the mean of the before/after thoughts actually does overtake the mean of the inside/outside-structured thoughts during the second exposure, as Krugman would predict. The same reversal of trend is evident during the third exposure.

5. The reader will note that no statistical tests have been performed on the data resulting from this study. The number of subjects in each condition is insufficient for an analysis of variance to be reliably performed. Further research in this area should ensure that enough respondents are gathered to meet the requirements of a statistical test. The reader will also recall that this study is descriptive rather than predictive. We have not drawn conclusions from this data.

Table 3: Structure by Focus, Attribute Ad

1st Exposure

Structure	Focus: Product	Focus: Ad	Focus: Connections[a]	
Inside/Outside	$\bar{x}$ = 1.46 s = 1.39	$\bar{x}$ = 2.92 s = 1.89	$\bar{x}$ = 0.38 s = 0.96	$\bar{x}$=4.76
Before/After	$\bar{x}$ = 0.38 s = 0.50	$\bar{x}$ = 0.08 s = 0.28	$\bar{x}$ = 0.77 s = 1.24	$\bar{x}$=1.23

n=13

$\bar{x}$=5.99

2nd Exposure

Structure	Focus: Product	Focus: Ad	Focus: Connections	
Inside/Outside	$\bar{x}$ = 1.30 s = 1.25	$\bar{x}$ = 1.84 s = 1.40	$\bar{x}$ = 1.07 s = 1.18	$\bar{x}$=4.21
Before/After	$\bar{x}$ = 0.62 s = 0.96	$\bar{x}$ = 0.15 s = 0.55	$\bar{x}$ = 2.30 s = 2.01	$\bar{x}$=3.07

n=13

$\bar{x}$=7.28

3rd Exposure

Structure	Focus: Product	Focus: Ad	Focus: Connections	
Inside/Outside	$\bar{x}$ = 3.38 s = 2.14	$\bar{x}$ = 2.69 s = 2.32	$\bar{x}$ = 0.77 s = 0.93	$\bar{x}$=6.84
Before/After	$\bar{x}$ = 1.46 s = 1.26	$\bar{x}$ = 0.00 s = 0.00	$\bar{x}$ = 0.85 s = 0.99	$\bar{x}$=2.31

n=13 $\bar{x}$=9.15

[a] "Personal Context" and "Ad Context" connection thoughts have been combined.

Table 4: Structure by Focus, Consequence Ad

1st Exposure

Structure	Focus: Product	Focus: Ad	Focus: Connections[a]	
Inside/Outside	$\bar{x}$ = 1.00 s = 1.08	$\bar{x}$ = 2.00 s = 1.58	$\bar{x}$ = 0.54 s = 1.39	$\bar{x}$=3.54
Before/After	$\bar{x}$ = 0.31 s = 0.49	$\bar{x}$ = 0.23 s = 0.83	$\bar{x}$ = 1.00 s = 1.22	$\bar{x}$=1.54

n = 13
$\bar{x}$=5.08

2nd Exposure

Structure	Focus: Product	Focus: Ad	Focus: Connections	
Inside/Outside	$\bar{x}$ = 0.62 s = 0.65	$\bar{x}$ = 1.00 s = 1.15	$\bar{x}$ = 1.61 s = 1.80	$\bar{x}$=3.23
Before/After	$\bar{x}$ = 0.23 s = 0.60	$\bar{x}$ = 0.23 s = 0.60	$\bar{x}$ = 3.07 s = 1.80	$\bar{x}$=3.53

n = 13
$\bar{x}$=6.76

3rd Exposure

Structure	Focus: Product	Focus: Ad	Focus: Connections	
Inside/Outside	$\bar{x}$ = 0.85 s = 1.41	$\bar{x}$ = 2.38 s = 1.75	$\bar{x}$ = 1.38 s = 1.12	$\bar{x}$=4.61
Before/After	$\bar{x}$ = 0.46 s = 0.66	$\bar{x}$ = 0.08 s = 0.28	$\bar{x}$ = 1.92 s = 2.28	$\bar{x}$=2.46

n = 13
$\bar{x}$=7.07

[a] "Personal Context" and "Ad Context" connection thoughts have been combined.

Some differences with regard to the ads are evident. For the "attribute-based" ad, over all three exposures, inside/outside-structured thoughts occur 72% of the time, while for the "consequence-based" ad, only 59% of the thoughts are of the inside/outside structure. For the "attribute-based" ad, over all three exposures, before/after-structured thoughts occur 28% of the time, while for the "consequence-based" ad, 41% of the thoughts have the before/after structure. While one would not want to attribute this variance to any particular attribute of the ads, this does demonstrate that structure varies with changes in stimulus variables.[6]

When both ad types are combined and the data collapsed over all three exposures, we find that the mean of the inside/outside-structured thoughts is twice as great as the mean of the before/after-structured thoughts. ($\bar{x}_{I/O}$=9.10, $\bar{x}_{B/A}$=4.74).

It is possible to partition this data so that the structure and focus of the thoughts may be examined simultaneously. For both ad types, the product- and ad-focused thoughts take on the inside/outside structure more often than the before/after structure during all three exposures. On the other hand, the connection thoughts are of the before/after structure more often than the inside/outside sturcture during all three exposures.

Number of Thoughts Across Exposures

The number of thoughts per person per exposure increased over the course of the three exposures. The ad types were combined because there was no difference in trend between them (see tables 3 and 4). During the first exposure, respondents averaged 5.57 thoughts, 7.07 thoughts during the second exposure and 8.11 thoughts during the third exposure.[7]

6. There is some agreement between the independent groups of people exposed to different ads which would allow us to attribute some reliability, and therefore some validity (because high reliability gives us the potential

In summary, the focus of the thoughts changes across exposures, but not in ways that one would expect given Krugman's hypotheses. Independent groups exposed to different stimulus ads were dissimilar on this dimension. The high number of thoughts focused on the ad itself may be somewhat inflated because of the familiarity of these subjects with advertising techniques and strategies.

The structure of the thoughts changes across exposures, again, not according to the hypotheses posed by Krugman. A larger percentage of the thoughts are of the inside/outside structure in the "attribute-based" ad than in the "consequence-based" ad. However, a larger percentage of the thoughts are of the before/after structure in the "consequence-based" ad than in the "attribute-based" ad. The product- and ad-focused thoughts take on the inside/outside structure more often than the before/after structure during all three exposures to both ad types. On the other hand, the connection thoughts are of the before/after structure more ofthen than the inside/outside structure during all three exposures to both ad types.

These data show a great deal of variance as well as some interesting trends across exposures. We believe that a more sensitive data collection procedure has allowed us to demonstrate the complexity and producttivity of the notion of exposure. If future investigators can avoid some of the deficiencies of this study, then we believe that the explication of this notion and the method for observing attending behavior will yield productive and useful findings.

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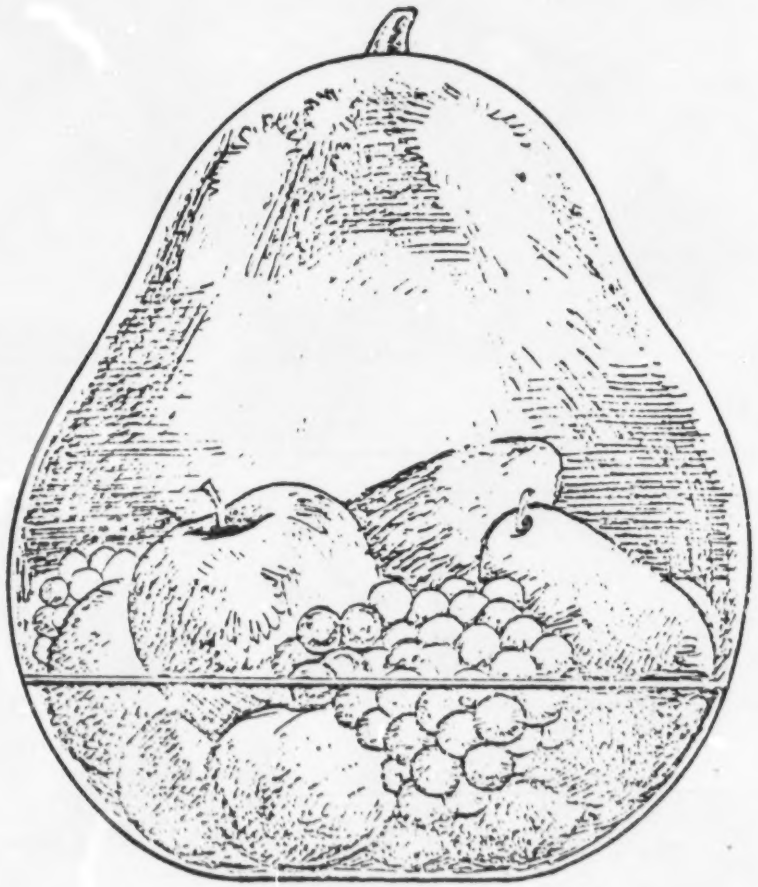
6. (cont.) for high reliability, as reliability determines a ceiling on validity). These groups have almost identical trend patterns when structure is observed across exposures. For any given exposure, the relation between the percentages of inside/outside and before/after thoughts occurring that day is alike for the two groups.
7. This trend was demonstrated to be significant, $p<.001$ using an analysis of variance and the individual as the unit of analysis.

APPENDIX A (Consequence-Based Ad)

HOW SWEET IT IS!



Eating ripe fruit can be a sweet experience. Too often, however, the experience is anything but sweet: An orange stubbornly yields its peeling but not before your hands are dripping with juice. A banana peel finally splits open but not until you've bent the stem back and forth so many times that the once firm fruit is now a mushy mess. A grape looks luscious to eat but instead assaults your mouth with a blast of sour juice. Now, with the new RipenRight Fruit Bowl, you needn't have these experiences.

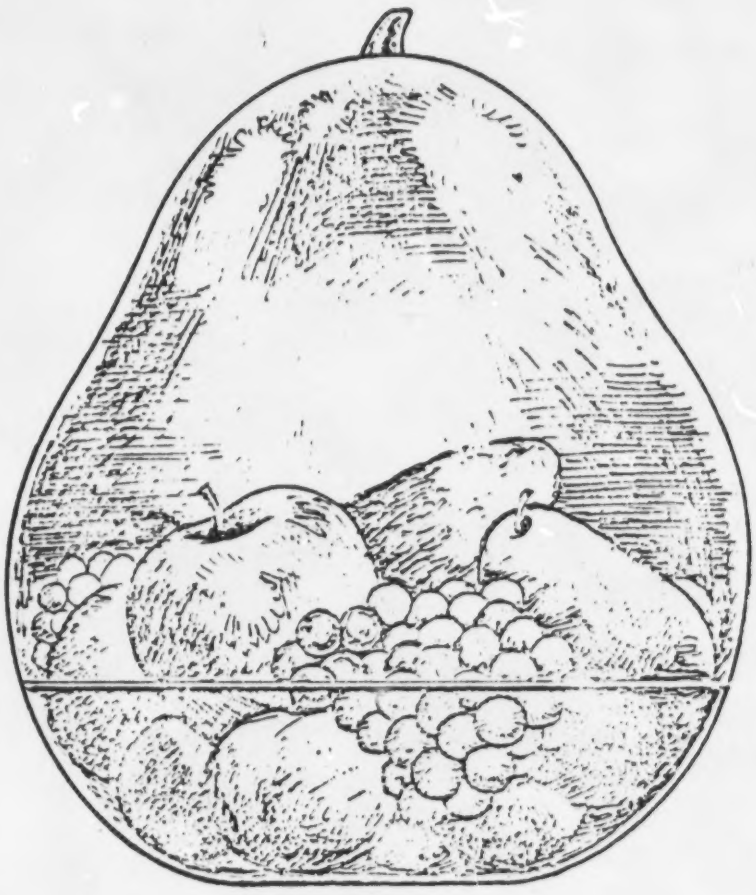
By trapping the ethylene gas that fruit exudes as it ripens, a RipenRight bowl promotes faster and more even ripening. Full of colorful fruit, a RipenRight bowl makes an attractive showcase that would brighten any kitchen. Or, use it as an appealing centerpiece or decoration anywhere in the house.

Best of all, RipenRight bowls prolong the freshness of fruit inside them. Now your oranges, bananas, grapes -- any fruit -- can stay ripe much longer and won't end up in the garbage can just a few days after it's purchased. After you've tried some fruit from a RipenRight bowl, you'll certainly agree "how sweet it is!"

RipenRight Fruit Bowls

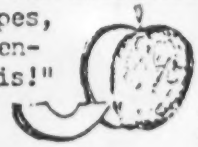
APPENDIX A (Attribute-Based Ad)

How Sweet it is!



Ripe fruit can provide a sweet eating experience. Especially if the fruit is stored in a new RipenRight Fruit Bowl. These lightweight, plastic bowls trap the ethylene gas that fruit exudes as it ripens. The result? Fruit ripens faster and stays ripe longer in a RipenRight bowl. Not only are the bowls lightweight but durable, too. RipenRight bowls come in attractive shapes--some like peaches, others like pears. Colorful fruit never looked so good as it does in a shiny, see-through RipenRight bowl. Easily washed, the bowls will keep their lustrous shine indefinitely.

RipenRight Fruit Bowls make fruit taste better. And how much does this extra taste cost? Just $10 a bowl. A small price to pay for sweetness. So, if you like ripe fruit, be it peaches, pears, apples, grapes, bananas or whatever, try the fruit from an economical RipenRight Fruit Bowl. You'll be amazed to see "how sweet it is!"



RipenRight Fruit Bowls

APPENDIX B

Subject instructions for the long version.

Please read these instructions all the way through before beginning.

You have a packet in front of you. Please look at one page of the packet at a time. You will notice that there is a blank sheet of paper on the top which has been numbered and lined. When you have finished these instructions, please remove this paper and set it to one side.

Underneath, you will see an advertisement. Please look at the ad and read the text. As you read the text, we would like you to mark the text with a slash (/) every time a thought occurs to you. By a thought, we mean any idea that comes to mind as you are reading or looking at the ad. When you make such a slash, please underline, in the text, the word or short phrase that triggered that thought. After you have done that, please jot down a brief note as to the content of that thought on the numbered and lined sheet of paper. Just make a quick note to yourself about that thought, then go on reading. Remember, each time you have a thought, make a slash, underline the word or phrase that triggered that thought, then note on the other paper what that thought was about, then go on reading. When you are finished, turn the ad over and go on to the next set of instructions.

There may be times when you stop to reread, to agree or disagree with the message, or stop to feel confused. If something like this happens to you, please be sure to tell what you stopped to reread, what you agreed or disagreed with, or what confused you.

This is not a test of the amount of information you can learn about the ad. Don't concern yourself with trying to memorize or write down information about the product. You won't be asked any information questions about the product or ad. We're only interested in what you are thinking about as you read this ad.

Subject instructions for the short version.

Please read these instructions all the way through before beginning.

Stapled to the back of these instructions is an advertisement. When you have finished these instructions, please turn the paper over so that you can read the ad. Please look at the ad and read the text. As you read the text, we would like you to mark the text with a slash (/) every time a thought occurs to you. By a thought, we mean any idea that comes to mind as you are reading or looking at the ad. When you make such a slash, please underline, in the text, the word or short phrase that triggered that thought, then go on reading. Remember, each time you have a thought, make a slash, then underline the word or phrase that triggered it, then go on reading. When you are finished, turn the ad over and go on to the next set of instructions.

This is not a test of the amount of information you can learn about the ad. Don't concern yourself with trying to memorize information about the product of ad. You won't be asked any information questions about either. Just complete this task as carefully as possible.

APPENDIX C

Examples of Subjects' Thoughts

1. Inside/Outside Structure and Product Focus.

   "The RipenRight Fruit Bowl is too expensive."

2. Before/After Structure and Product Focus.

   "If I buy the RipenRight Fruit Bowl, then I won't waste so much money throwing away rotten fruit."

3. Inside/Outside Structure and Ad Focus.

   "The word 'exudes' isn't a very good one to use in an ad."

4. Before/After Structure and Ad Focus.

   "If this ad was ever used in a magazine, it would never sell this product."

5. Inside/Outside Structure and Ad Context Focus.

   "I think a sour grape is upsetting too."

   (The ad describes the unpleasantness of eating a sour grape.)

6. Before/After Structure and Ad Context Focus.

   "The description made me remember how much I hate to have oranges drip all over my hands."

7. Inside/Outside Structure and Personal Context Focus.

   "'How sweet it is' is Jackie Gleason's old line."

   (The ad does not mention Jackie Gleason.)

8. Before/After Structure and Personal Context Focus.

   "When I saw this fruit bowl, it made me think of the old wooden one my mother has at home."

   (The ad does not mention wooden fruit bowls.)

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